

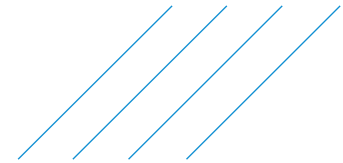
# Knocknacarra District Centre

## DMURS Statement

Glenveagh Living

09th October 2019





## Technical Note

<b>Project:</b>	Knocknacarra District Centre		
<b>Subject:</b>	DMURS Statement		
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<b>Distribution:</b>	Sigma, Glenvea, Laffertys, McKOS, Reddy	<b>Representing:</b>	N/A

### Planning Background

This DMURS Statement has been prepared to supplement the planning application to An Bord Pleanála for a proposed mixed use development at Knocknacarra District Centre, Ragoon, Galway.

This statement should be read in conjunction with the architectural and engineering site layout drawings. This statement relates to the street network associated within the proposed development site.

### The need for DMURS

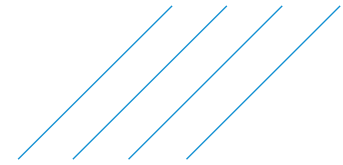
DMURS is the appropriate design guidance to be applied to urban environments such as cities, towns, villages and urban developments.

*“The principles, approaches and standards set out in the Manual apply to the design of all urban roads and streets (that is streets and roads with a speed limit of 60km/h or less)...”*

DMURS requires a collaborative design process and a holistic design approach to the layout and design of urban streets; to this end the design team consisting of planners, architects, engineers and the client have engaged in a consultative process to ensure that the proposed development incorporates the design principles espoused in DMURS.

The street layout developed delivers a high place function wherein the streets and open spaces form part of the social fabric and are used for congregation and play. Achievement of this function is greatly facilitated by developing a self-regulating street environment where in vehicular movement function should be limited, as much as is practicable and a desirable maximum design speed of 30kph being achieved.

The street layout accommodates high levels of permeability for pedestrians and cyclists along streets and through open spaces, into the adjacent Gateway Retail Park, Gealscoil Mhic Amhlaigh, Western Distributor Road and Knocknacarra area.



Vehicular permeability provides for access to Gateway Retail Park, local access to resident carparks with appropriate access provision for emergency and service vehicles.

Cycle provision is a mix of segregated provision along L5000 and Link Road and shared street provision on local and home zone streets (road space is shared between cyclists and vehicles) in accordance with the National Cycle Manual. Raised crossings are provided along Local Road to the west of the development to provide priority to cyclists and pedestrians. In addition, shared pedestrian and cycle links are proposed through all of the open spaces within the development, north-south along the western boundary, and along the northern edge of the Link Road. All of the east-west links connect the development and adjacent lands with the Gateway Retail Park.

Access provision for emergency and service vehicles will be provided via the Link Road to the north aspect of the development (Blocks E & F) and through the shared public space to remaining aspects of the development. There is also an emergency access point off the existing Gort na Bro roundabout to the south east of the development.

The street layout provides for future works proposed under the N6 Galway City Ring Road which is currently at the planning stage.

The design of the streetscape including the provision of trees and planters and raised pedestrian crossings will significantly influence the achievement of lower traffic speeds and the required quality of street design.

## Proposed Development

The proposed development at Knocknacarra District Centre is a mixed-use development and the following is an approximation of what it will include

- 332 new residential units
- Provision of ground floor commercial floor space of 2,667sqm including 16 no. retail/food and beverage units
- Community use facility
- Shared communal and private open space, site landscaping, site services and all associated development works
- Creche facility
- Public open space
- Provision of realigned road (Link Road) between L5000 (Gort na mBro) and Gateway Retail Park Road facilitating vehicular, pedestrian and cyclist facilities
- An upgrade to existing L5000 running along southern site boundary with pedestrian/cycling facility and traffic signal-controlled junction
- Additional pedestrian/cycling connections provided to the boundaries with adjoining development roads and lands to the north and west and along the northern development boundary
- Provision of 85 no. car parking spaces
- Change of use of underground void within Phase 2 to 181 bay underground car park
- 5 No. drop-off spaces along the Local Road in front of Block E
- 677 No. Bicycle parking, including enclosed parking for residents as well as sheltered and unsheltered surface parking for visitors and residents;
- And all associated internal roads and infrastructural works.

The proposed development is shown in Figure 1 below, with an overview of the main pedestrian routes and vehicular access points shown in Figures 2 and 3 below.

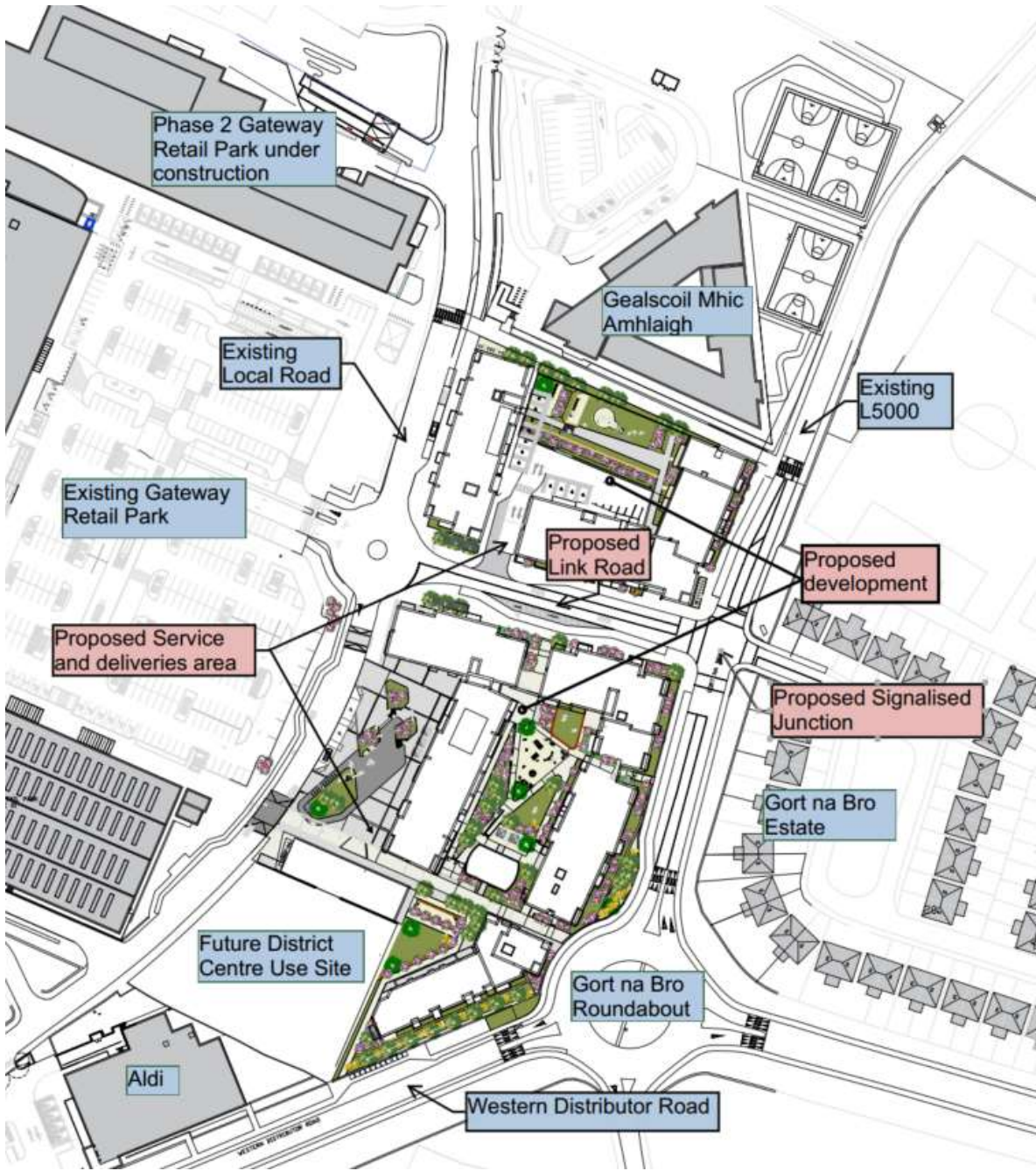
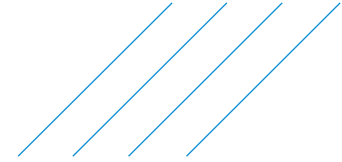
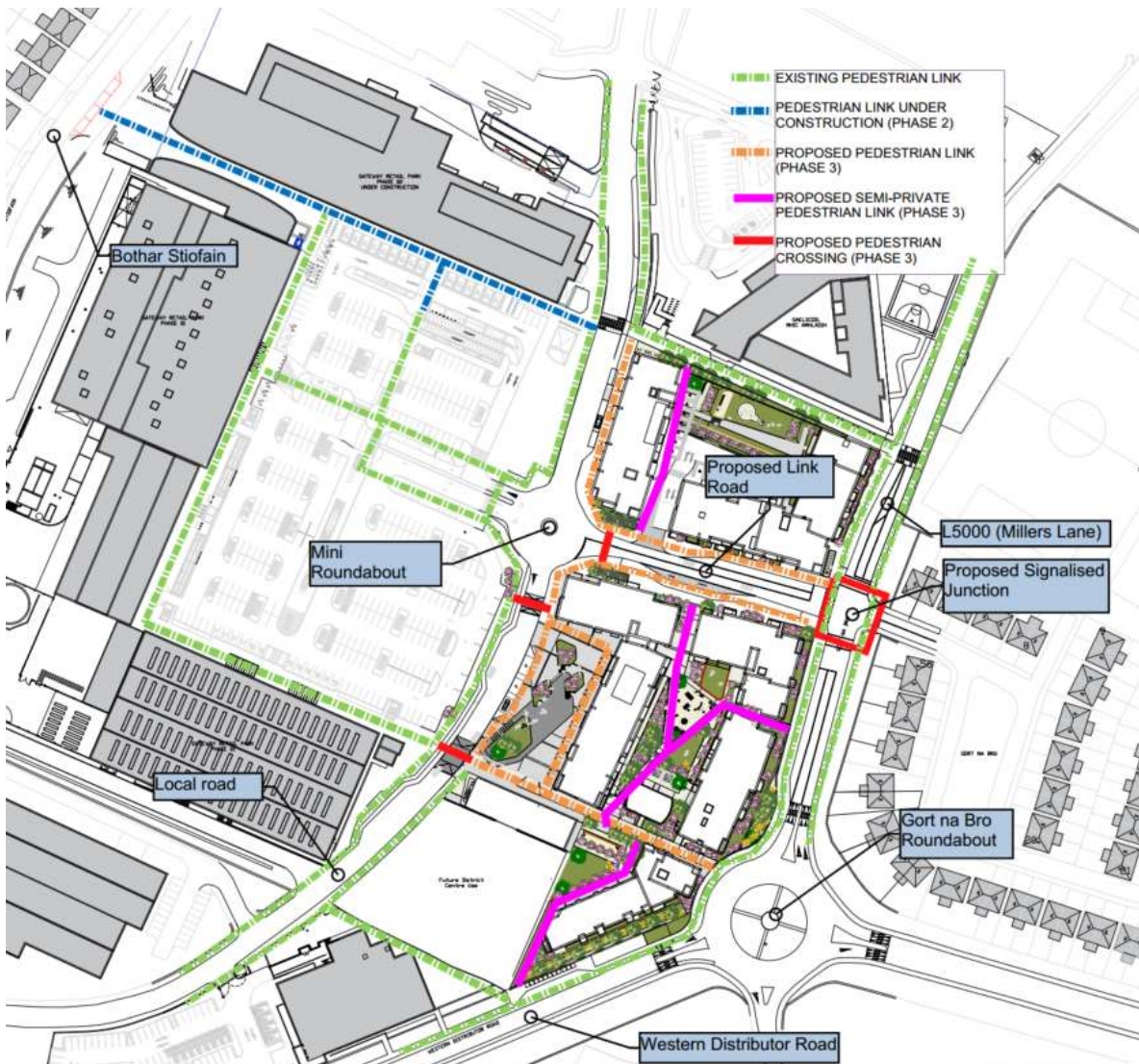
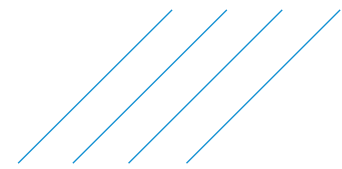
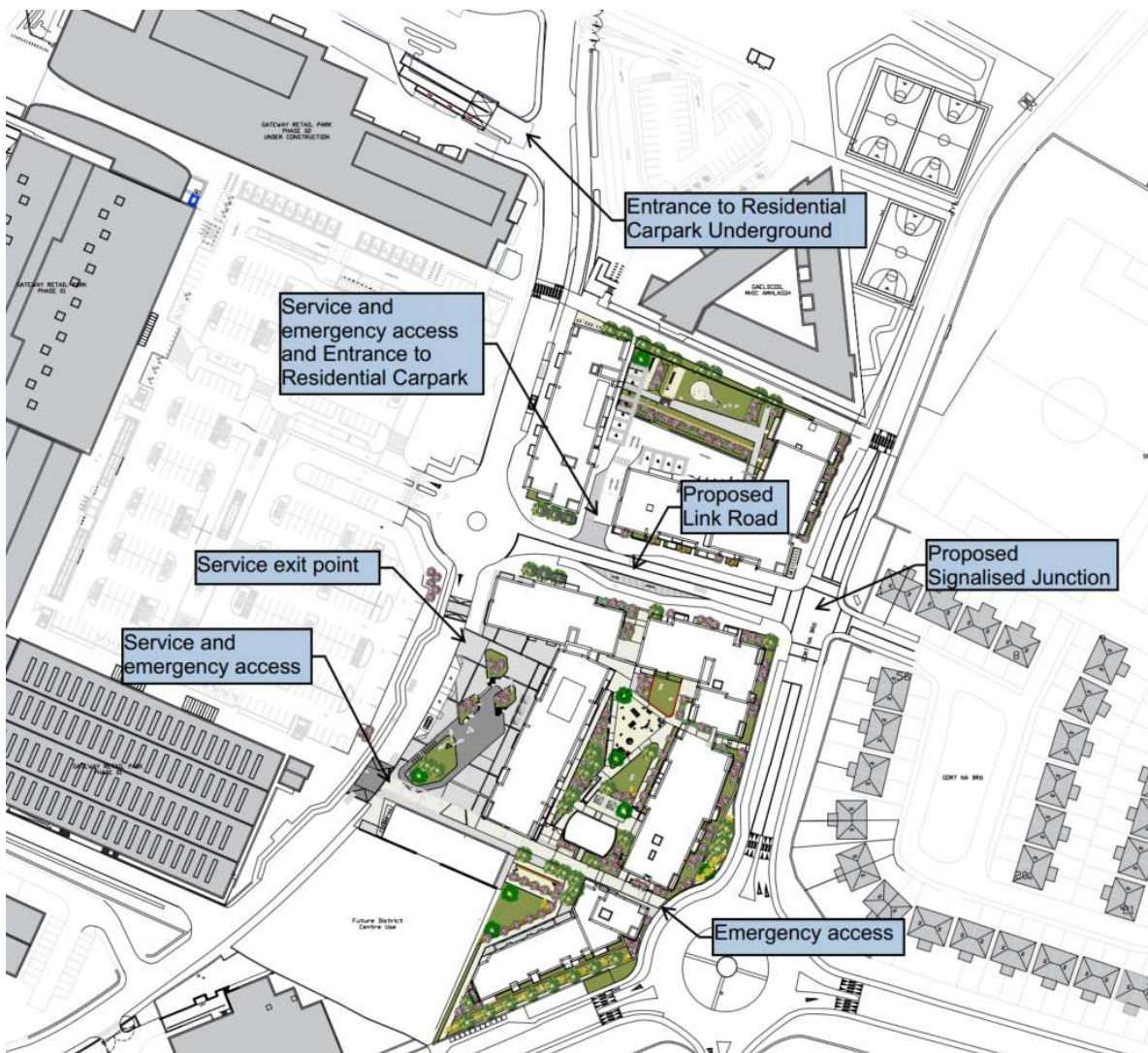


Figure 1. Proposed Development Site Layout



**Figure 2. Overview of Proposed Main Pedestrian Routes**



**Figure 3. Overview of Proposed Main Vehicular Access Points**

## Compliance with DMURS

A low speed urban street design is promoted via the combination of the design elements below.

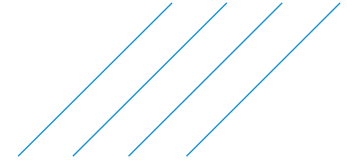
- Horizontal and vertical alignment designed to 30km/h/50km/h
- Carriageway widths in line with DMURS requirement for street type.
- Constrained junction radii in line with DMURS requirement
- Provision of Raised Crossings

Landscaping has been proposed so as not to create 'blind spots' and ensure that inter-visibility is maintained between pedestrians, cyclists and motorists.

## Internal Street Layout

Best practice in relation to the design was referenced from the following current design documents and guidelines:

- Design Manual for Urban Roads and Streets (DMURS),
- TII Design Manual for Roads and Bridges (DMRB) where relevant,



- The National Cycle Manual (NCM).

The site layout has been developed in accordance with the principles of DMURS taking note of the site constraints associated with the requirements of the Galway City Development Plan and proposed N6 Galway City Ring Project (N6 GCRR) currently undergoing the planning process. The proposed Link Road and the upgrade to the existing L5000 are in line with the N6 GCRR proposals.

The street layout for the proposed development essentially consists of one type of street typology. The proposed Link Road and the existing L5000 and the Local Road (Gateway Retail Park Road) are classified as Link Streets under DMURS.

In the context of this particular site this is the street layout that optimises permeability whilst responding to the prevailing topography and the critical elements of open space. Vehicular permeability is provided through the Link Road with appropriate provision for vehicular access to the Podium carpark. The streets are all designed to facilitate pedestrian and cyclist permeability to the adjacent lands and on to Gateway Retail Park and Gealscoil Mhic Amhlaigh.

## Street Typology

**Table 1 – Design Criteria**

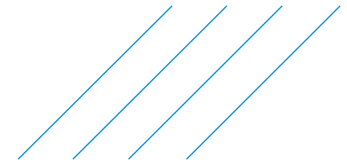
Design Criteria	Link Street
DMURS Recommended Design Speed	30-50km/h
Adopted Design Speed	50km/h on L5000 30km/h on Link Road 30km/h on Local Road
Minimum Horizontal Radius	N/A
Maximum Gradient	5%
Minimum Gradient	0.5%
Carriageway Width	6.0m
Footway Width	2.0m
Junction Radii	6m between Link Street and L5000
Junction Approach Gradient	2%

## Local Road adjacent to Public Area

The traffic calming on the road adjacent to plaza will be achieved by raised table crossings (DMURS recommended measures) and signage. These crossings are in line with pedestrian desire lines linking the Plaza and the Phase 1 development carpark. Raised tables will provide at grade crossing opportunity to pedestrians and will make them more visible to oncoming traffic.

## Junction Design

The design of the junctions is based on the proposed cross section at these locations and vehicle swept path analysis has been utilised to determine if any of the junctions require amendment to incorporate the largest expected vehicle manoeuvres through the junction. In general, tight corner



radii are proposed in order to reduce traffic speeds which, in turn, create a safer urban environment for pedestrians and cyclists.

### Internal

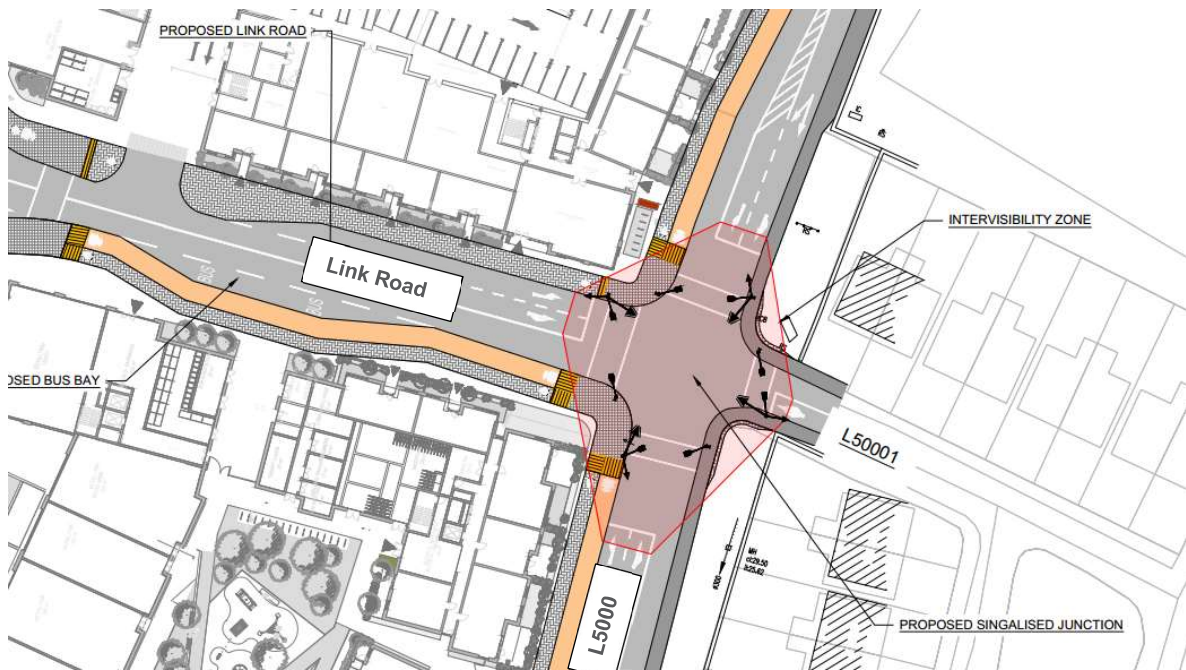
Internal junction between Link Road and the Podium Carpark Area is designed in accordance with DMURS generally with 4m junction radii.

Refuse vehicle and delivery vehicle swept paths have determined the geometry of this junction.

Sight lines provide a visibility splay of 23m commensurate with a design speed of 30km/h at a setback of 2.4m.

### Signalised Junction

The layout of the development access junction with the L5000 is detailed in Figure 2. This junction is a signalised junction in accordance with TII Document Ref DN-GEO-03044 - The Geometric Layout of Signal-Controlled Junctions and Signalised Roundabouts. The junction incorporates 6.0m junction radii in accordance with DMURS as noted in Table 1



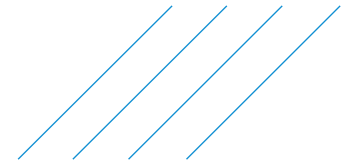
**Figure 4. Proposed Development Access**

This junction incorporates the two-way cycle lane provision along the development frontage and appropriate crossing facilities for pedestrians and cyclists at the junction. This layout facilitates seamless access for pedestrians and cyclists to the internal street network.

The traffic signals incorporate right turn lane provision into the development to facilitate the required capacity for the full development of the lands. The south west corner of the junction has been designed to facilitate bus route in and out of the development.

The junction approach gradient at the development access junction is 2.0%. This is below the relaxed maximum approach gradient of 4.0% as detailed in TII Document Ref DN-GEO-03043 - Geometric Design of Junctions.





## Facilities for Pedestrians and Cyclist

The provision of high quality pedestrian and cyclist facilities within the development is central to the design principles adopted in relation to the development proposals. Cycle facilities will be a mix of off-line provision and shared facilities with the principles set out in the National Cycle Manual and reinforced within DMURS. The design of the corridor to the south of the plaza area as a self-regulating 20kmh design speed is central to the safe provision of the shared street cycle regime.

In overall terms the pedestrian and cyclist provision are as follows in Table 2

**Table 2 – Pedestrian and Cyclist Provision**

	Pedestrian Provision	Cyclist Provision
L5000	2m footpath both sides	Segregated two-way cycleway along the western edge
Link Road	2m footpath along the south edge + 4m shared surface along the northern edge	Segregated two-way cycle way along the southern edge. 4m shared pedestrian and cycle track along the northern edge.
Local Road	2m footpath along the western edge + 4m shared pedestrian & cycle track along the eastern edge & the Plaza area	Segregated cycleway along the western edge + 4m shared pedestrian & cycle track along the eastern edge & the Plaza area
Service /Emergency access south of Plaza area	Shared Street Provision, cyclist shares carriageway with pedestrians and vehicles in low traffic speed and low traffic volume environment	
Shared Path	3m/4m shared pedestrian & cycle track through linear open space and adjacent to school site.	

In addition, pedestrian linkages through and around the proposed development have been considered in the context of desire lines, particularly in the context of connections to the overall masterplan layout for the area and onwards towards existing and proposed amenity lands. In addition to the defined vehicular accesses to the site there are additional pedestrian and cyclist link provisions that will provide access to adjacent zoned development land.

Drop kerb crossings will be provided at the signalised junction. Raised pedestrian crossings will be provided along the Link Road and Local Road. The use of raised pedestrian table crossing points will have the benefit of providing both a convenient crossing point and a traffic calming effect. The raised table pedestrian crossing design is based on the recommendations in DMURS and the Traffic Management Guidelines.